July 12, 1999

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman (Signed)
Inspector General

SUBJECT: INFORMATION: Audit Report on "Management of Laboratory Directed Research and Development at the National Renewable Energy Laboratory"

BACKGROUND

The Department of Energy's (Department) National Renewable Energy Laboratory (NREL) is the Nation's only national laboratory dedicated to furthering the development and commercialization of renewable energy and energy efficiency technologies. NREL's mission is to lead the Nation toward a sustainable energy future by developing renewable energy technologies, improving energy efficiency, advancing related science and engineering, and facilitating commercialization. As part of its mission, NREL performs discretionary research and development, more commonly known throughout the Department as Laboratory Directed Research and Development (LDRD). The objective of this audit was to determine how NREL implemented its LDRD program in relation to Department requirements.

RESULTS OF AUDIT

Although it was NREL's intention to meet the Department's requirements for LDRD, it used LDRD funds for projects that were not science- or research and development- based. Consequently, NREL spent about $2.5 million on projects that did not meet the requirements of the Department's LDRD program. In addition, NREL did not properly account for some LDRD costs, and some projects incurred questionable housing allowance costs.

MANAGMENT REACTION

Management concurred with our recommendations and has initiated or is planning corrective actions. However, management took exception to our conclusion that 21 projects involving discretionary research and development were "questionable" because they did not qualify as Laboratory Directed Research and Development as defined by DOE Order 413.2. Management restated its position that the Order, technically, did not apply to NREL's LDRD program. In the audit report, we acknowledged that the Order did not specifically apply to NREL. However, we both agreed that the Order was the best basis for managing the LDRD program. Therefore, we used it as a benchmark for evaluating NREL's program during the audit. To clarify this matter, during the audit, the Assistant Secretary for Energy Efficiency and Renewable Energy issued a policy stating that NREL's discretionary research and development would be managed in a manner consistent with the Department's policy on LDRD at multi-program funded laboratories.

Attachment

cc: Deputy Secretary
Under Secretary

WR-B-99-05

AUDIT REPORT

MANAGEMENT OF LABORATORY DIRECTED RESEARCH AND DEVELOPMENT AT THE NATIONAL RENEWABLE ENERGY LABORATORY

JULY 1999

U.S. DEPARTMENT OF ENERGY
OFFICE OF INSPECTOR GENERAL
OFFICE OF AUDIT SERVICES

July 12, 1999

MEMORANDUM FOR THE MANAGER, GOLDEN FIELD OFFICE

FROM: Lawrence R. Ackerly, Regional Manager (Signed)
Western Regional Audit Office
Office of Inspector General

SUBJECT: INFORMATION: Audit Report on "Management of Laboratory Directed Research and Development at the National Renewable Energy Laboratory"

BACKGROUND

The Department of Energy's (Department) National Renewable Energy Laboratory (NREL) is the only national laboratory dedicated to furthering the development and commercialization of renewable energy and energy efficiency technologies. NREL's mission is to lead the Nation toward a sustainable energy future by developing renewable energy technologies, improving energy efficiency, advancing related science and engineering, and facilitating commercialization. As part of its mission, NREL performs discretionary research and development, more commonly known as Laboratory Directed Research and Development (LDRD). The objectives of the Department's LDRD program include maintaining the scientific and technical vitality of laboratories; fostering creativity and stimulating the exploration of forefront science and technology; and supporting high-risk, potentially high-value research and development. The objective of this audit was to determine how NREL implemented its LDRD program in relation to Department requirements.

RESULTS OF AUDIT

Although it was NREL's intention to meet the Department's requirements for LDRD, it funded projects that were not science-based or research and development. Of 60 projects reviewed, we concluded that 21 did not have the characteristics of an LDRD project. Consequently, NREL spent about $2.5 million on projects that were not LDRD. In addition, NREL did not properly account for $72,286 in LDRD costs and incurred questionable housing allowance costs of $10,177.

MANAGEMENT REACTION

Golden Field Office (Field Office) management concurred with our recommendations and has initiated or is planning corrective actions. However, management took exception to the report's conclusion that 21 projects involving discretionary research and development were "questionable" because they did not qualify as "Laboratory Directed Research and Development" as defined by Department of Energy (DOE) Order 413.2. Management stated that the report's conclusion was based on the fact that projects were not solely "science-based or research and development" as defined in the Order.

MANAGEMENT OF LABORATORY DIRECTED RESEARCH AND DEVELOPMENT AT THE NATIONAL RENEWABLE ENERGY LABORATORY

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Overview

INTRODUCTION AND OBJECTIVE

The Department of Energy's (Department) National Renewable Energy Laboratory (NREL), located in Golden, Colorado, is the only national laboratory dedicated to furthering the development and commercialization of renewable energy and energy efficiency technologies. NREL's mission is to lead the Nation toward a sustainable energy future by developing renewable energy technologies, improving energy efficiency, advancing related science and engineering, and facilitating commercialization. As part of its mission, NREL performs discretionary research and development, more commonly known as Laboratory Directed Research and Development (LDRD). According to the Golden Field Office (Field Office), the LDRD program had a cumulative approved ceiling of $16.5 million for the period covering Fiscal Years (FYs) 1995 through 1998. Our audit objective was to determine how NREL implemented its LDRD program in relation to Department requirements.

CONCLUSIONS AND OBSERVATIONS

Although it was NREL's intention to meet the Department's requirements for LDRD, it funded projects that were not science-based or research and development. Most of the 60 LDRD projects reviewed met the Department's requirements for LDRD. However, we concluded that 21 did not. These projects, for example, did not have the characteristics of an LDRD project or required funding other than LDRD funding to be completed. Consequently, NREL spent about $2.5 million on projects that were not LDRD. In addition, NREL did not properly account for some LDRD costs, and its LDRD program incurred questionable housing allowance costs.

Previous Office of Inspector General (OIG) reports have disclosed problems with LDRD. In November 1997, the OIG issued report CR-B-98-02, *Audit of Management of the Laboratory Directed Research and Development Program at the Lawrence Livermore National Laboratory*. The audit concluded that an increase in the level of discretionary research was primarily obtained at the expense of Department-directed research. In August 1989, the OIG issued report ER-0-89-11, *Discretionary Funds at the Princeton Plasma Physics Laboratory*. The audit concluded that, while the funds were used in accordance with mission needs, no adequate policy and guidance existed on the use of the funds. Therefore, no determination could be made as to whether the funds were used on authorized Department projects. Finally, in May 1989, the OIG issued report DOE/IG-0267, *Exploratory Research and Development Funds at*

Los Alamos National Laboratory. The audit disclosed that Los Alamos National Laboratory funded unauthorized discretionary projects.

In addition, a prior audit disclosed problems with cost controls. In February 1993, the OIG issued report DOE/IG-0321, *Allowable Costs at Department of Energy Management and Operating Contractors*. The audit disclosed that the Department was reimbursing contractors for costs that were considered to be unallowable because they were not reasonable. This condition was similar to the questionable costs for housing allowance expenses identified during our current audit at NREL.

In our opinion, the matters discussed in this report should be considered when preparing the yearend assurance memorandum on internal controls.

(Signed)
Office Of Inspector General

LDRD PROGRAM PROJECTS

Program Requirements

Public Law 95-39, *Energy Research Act* (Public Law) provides NREL the authority to use a reasonable amount of its operating budget to fund employee-suggested research projects to the pilot state of development. Department Order 413.2, *Laboratory Directed Research and Development* (Order) implements the Public Law by establishing the requirements for LDRD and lists those laboratories to which the Order applies. Although NREL is not specifically included in the Order, the Field Office pointed out and NREL management agreed that the Order provided the best basis for managing its LDRD program.

These LDRD requirements stipulate that:

- Projects must be in the forefront of science and technology and normally should include one or more of the following characteristics.

  (1) Advanced study of hypotheses, concepts, or innovative approaches to scientific or technical problems.

  (2) Experiments and analyses directed towards "proof of principle" or early determination of the utility of new scientific ideas, technical concepts, or devices.

  (3) Conception and preliminary technical analyses of experimental facilities or devices.

- Non-LDRD funds must not be used to accomplish the technical goals of a LDRD project.

These requirements function as benchmarks through which the implementation of the LDRD program can be measured.

Questionable LDRD Projects

NREL funded projects that were not science-based or research and development. Of 60 projects reviewed, we questioned 21 because they did not meet the requirements set forth in the Order. Projects such as *The Green Market Initiative* and *South Africa Electricity Policy Project* focused on generating new business opportunities for NREL. The expected outcomes of two other projects, *Plan and Co-Host the First Conference on Frontiers of Pyrolysis* and *Flat Panel Display-Third Annual NREL Conference on Thermophotovoltaic Generation of Electricity*, were to plan, arrange, and host conferences during

June 25-30, 1995 and May 18-21, 1997, respectively. While these and other projects, as listed in Appendix 2, may have benefited NREL, they were not science-based or research and development and, thus, should not have been funded through the LDRD program. When we presented a list of the 21 questionable projects and discussed 9 of these projects in detail with Department and NREL officials, they did not dispute our conclusions. An official from the Office of the Assistant Secretary for Energy Efficiency and Renewable Energy (Energy Efficiency), in fact, agreed with our basic premise that the projects appeared questionable.

Department Guidance And Field Office Awareness

Neither the Field Office nor NREL used the benchmarks to implement the LDRD program. The Field Office did not ensure that projects funded by the LDRD program were science-based or research and development. Field Office oversight was minimal, consisting of annual briefings by NREL officials. For its part, NREL established an LDRD program that did not have the same scientific focus as the Department's program. For example, NREL's program focused on areas such as promoting renewable energy and energy efficiency technologies that would lead to new funding sources. These areas were not entirely consistent with the objectives shown in the Order.

In response to direction from the Assistant Secretary for Energy Efficiency and to our discussions with Field Office and NREL officials, Field Office officials drafted a policy for a new program titled, Director's Discretionary Research and Development Program. On December 15, 1998, the Assistant Secretary issued the policy stating that NREL's new program would be managed in a manner consistent with the Department's policy on LDRD at multi-program funded laboratories. (See Appendix 3.) In his cover memo, the Assistant Secretary directed the Field Office to provide the necessary oversight to ensure that NREL's program is consistent with the policy in both content and implementation.

Effect Of Funding Questionable Projects

NREL spent about $2.5 million on projects that did not qualify as LDRD. Although the Department and NREL may have benefited from the projects and the costs were allowable, the projects were not LDRD and should not have been funded as such. In addition, according to the minutes from the November 11, 1997, LDRD committee meeting, a project was denied additional funds due to the financial shortfall that the LDRD program was experiencing for FY 1998. On December 16,

1997 and January 6, 1998, the committee denied requests for additional funds for two other ongoing projects. Had NREL not expended funds on questionable projects, it may have been able to provide additional funding for these three projects.

RECOMMENDATION

We recommend that the Manager, Golden Field Office and NREL officials comply with the policies and procedures established by the Assistant Secretary for Energy Efficiency.

MANAGEMENT REACTION

Management concurred with the recommendation and stated that the Field Office coordinated with NREL to ensure compliance with the Assistant Secretary's December 15, 1998, policy. The coordination culminated in the issuance of NREL Policy Number 4-4, *Director's Discretionary Research and Development* (DDRD) that was effective on March 9, 1999. The NREL policy is designed to fulfill the Assistant Secretary's requirements (i.e., improved procedures for selection/ approval of projects, enhancing accounting and administration controls, etc., at the operational level). In addition, the Field Office and NREL will conduct a follow-up review of the new DDRD program in July 1999.

Management took exception with the report's conclusion that 21 projects involving discretionary research and development were "questionable" because they did not qualify as "LDRD" as defined by the Order. They stated that the report's conclusion was based on the fact that projects were not solely "science-based or research and development" as defined in the Order. Further, officials from the Energy Efficiency, Field Office, and NREL provided extensive information during the course of the audit regarding the legal and programmatic distinctions between DDRD that takes place at NREL versus LDRD which occurs at multi-program laboratories. According to management, these distinctions are critical for the following reasons:

- NREL is the only national laboratory whose mission includes developing and facilitating the commercialization of energy efficiency and renewable energy technologies. This distinction is one of the key reasons why the Order, and its previous versions, does not apply to NREL. DDRD activities are specifically designed to fulfill NREL's mission.

- Although the Order and Section 3137 of Public Law 105-85 governing LDRD funds do not specifically pertain to NREL, the Field Office and NREL have attempted to incorporate the "spirit" of the Order into discretionary research activities at NREL, including criteria for the selection of projects that are "science based or research and development." However, criteria from the Order does not constitute the sole basis that is used to select individual projects. Again, other factors such as NREL's unique mission (including the exploration and/or development of innovative or creative research opportunities) and the need to address future Department missions also were important considerations that impacted selection decisions.

For these reasons, Field Office, NREL, and Energy Efficiency officials did not concur with the auditors that 21 projects were "questionable" under the Order.

AUDITOR COMMENTS

Management's proposed actions are responsive to our recommendation. However, we do not agree with management's basis for taking exception to the finding. We acknowledge that the Order does not specifically apply to NREL. However, both the Field Office and NREL agreed that the Order was the best basis for managing the LDRD program. Thus, it serves as a benchmark for evaluating NREL's LDRD program. Finally, the policy issued by the Assistant Secretary on December 15, 1998, is consistent with the Department's position on LDRD at multi-program funded laboratories.

We met with Field Office and NREL officials several times during the audit to discuss our audit results and to provide them with our analyses of the projects we questioned. Although they chose not to give an opinion on the validity of the individual projects, they did acknowledge that the LDRD program should not fund business development projects. The officials also agreed that there was a need for Department guidance regarding the types of projects that should be funded by the LDRD program. In a November 25, 1998, meeting with NREL officials, a senior manager stated that he believed that discretionary research and development funds should be spent on scientific, cutting edge projects and that the projects should not be initiated solely to generate business for NREL. He added that NREL was revising its procedures for project approvals to include a review by a representative of the Director of NREL, who would apply the criteria being developed for the DDRD

program. Finally, he stated that this process should prevent the funding of projects like those identified as questionable during the audit.

On December 17, 1998, we met with representatives for the Assistant Secretary for Energy Efficiency to discuss the audit results. A senior official stated that he felt that our basic premise for questioning the projects was correct. He stated that after seeing a list of the questioned projects that he too was skeptical as to their validity as LDRD projects. He also expressed regret that NREL had gotten off-track with the purpose of some of the projects.

COST CONTROLS

Accounting Policy

In March 1996, the Department's Controller established the Department's policy for accounting for LDRD costs. The policy required that LDRD costs (1) be identified and accumulated by individual project; (2) consist of all allocable costs, except for general and administrative expenses; (3) be separately identified in an account containing all LDRD project costs and other allocable costs, except general and administrative expenses; and (4) LDRD project costs incurred in an accounting period not be assigned to any other accounting period. The policy was intended to complement Order 5000.4A, *Laboratory Directed Research and Development*, which in March 1997 was superceded by Order 413.2.

Improper Transfers And Allocations

NREL improperly transferred and allocated LDRD project costs and incurred questionable housing allowance costs. We reviewed 22 projects and identified 10 that had problems with cost controls and 7 that had problems with housing allowance costs.

Our review of the 10 projects with cost control problems showed that NREL inappropriately:

- transferred LDRD costs to non-LDRD projects to reduce cost overruns;
- transferred LDRD costs to other overhead accounts;
- split costs between projects;
- charged subcontract costs to projects that were not the beneficiary of the subcontract work performed; and,
- distributed housing allowances paid to temporary employees.

The inappropriately accounted for costs totaled $72,286.

In addition, we identified questionable housing allowances paid to temporary employees. For example, for 7 of the 22 projects reviewed, we questioned $10,177 in housing allowances that appeared to be unreasonable or unallowable.

Lack Of Department Guidance

The improper transfers, allocations, and questionable housing allowances occurred because of weaknesses in NREL's LDRD program that were brought on by a lack of Department guidance. Although the Controller's March 1996 guidance complemented Department policy on LDRD, it applied only to multi-program laboratories, not to NREL. The Assistant Secretary for Energy Efficiency had not issued a policy at NREL that included guidance on accounting for LDRD costs. On December 15, 1998, the Assistant Secretary issued a policy governing the DDRD program at NREL. (See Appendix 3.) The policy requires NREL to comply with the Department's financial policy for LDRD.

Inaccurate LDRD Costs

NREL's management cost reports did not accurately reflect LDRD program costs. Further, program and project costs outside the LDRD program could be impacted because LDRD costs are allocated to NREL programs much like general and administration costs. This puts NREL and the Department at risk because management decisions may be based on these reports.

RECOMMENDATIONS

1. We recommend that the Manager, Golden Field Office and NREL officials take the necessary actions to ensure that LDRD costs are properly accounted for.

2. We recommend that the Contracting Officer (1) make a determination on the allowability of questioned housing allowance costs and (2) recover any such costs determined to be unallowable.

MANAGEMENT REACTION

Management concurred with the first recommendation, stating that it is working with NREL to enhance the accuracy of applicable cost reports. Management also stated that it is reviewing procedures governing the manner in which costs are transferred and/or distributed between projects to enhance the accuracy of reports and to ensure that the accounting of costs is proper. The review will be completed in July 1999.

Management also concurred with the second recommendation, stating that the Contracting Officer is reviewing the $10,177 of questioned housing allowance costs and that the final determination will be made by July 30, 1999. The Contracting Officer will recover from NREL any amounts considered unallowable by August 30, 1999.

AUDITOR COMMENTS

Management comments and proposed actions are responsive to our recommendations.

Appendix 1

SCOPE

We performed the audit from July 1998 to January 1999 at the Department's Headquarters, and at the Field Office and NREL, located in Golden, Colorado.

METHODOLOGY

To accomplish the audit objective, we:

- reviewed Department and Field Office guidance on the management of LDRD;
- interviewed Field Office and NREL officials to understand their procedures for LDRD;
- interviewed Headquarters, Field Office, and NREL officials responsible for managing LDRD at NREL;
- reviewed documents concerning the initiation, approval, and completion of LDRD projects;
- analyzed the validity of 60 of 116 LDRD projects for FY 1995 through FY 1998; and,
- reviewed documents concerning specific cost controls for 22 LDRD projects for FY 1995 through FY 1998.

We conducted the audit according to generally accepted government auditing standards for performance audits and included tests of internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objective. We limited our review of internal controls to those controls associated with the management of LDRD. Because we limited our review, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. The Field Office had not established performance measures for NREL's LDRD program. Therefore, there were no measures for us to evaluate. We did not rely extensively on computer-generated data. Therefore, we did not fully examine the reliability of the computerized data used.

We held an exit conference with Field Office, NREL, and Headquarters officials on June 15, 1999.

Appendix 2

Questionable Projects

This appendix shows the 21 projects that we determined to be questionable based on the requirements in Order 413.2.

Project Title and Objective	Cost Through 9-30-98
1. *NREL International Strategy*. Expected outcomes were a greater consideration and implementation of renewables in international energy development through an active, coordinated, and leadership role of NREL and recognition of NREL as the world leader and spokesperson for international applications.	$444,420
2. *Green Market Initiative*. Expected outcomes were to develop a national-level coalition to promote green power marketing in a restructured electricity industry and generation of new business opportunities in supporting the development of the green power market.	417,240
3. *Flat Panel Display*. Expected outcomes were to hire an individual whose mission would be to develop relationships with important industries and funding sources. Strategic alliances with other companies and institutions were an important factor leading to success. Contacts had already been made and attempts were made to acquire outside funding for this activity.	179,500
4. *Flat Panel Display*. The goal of this research was to provide information on certain materials as deposited on heat sensitive materials presently in use. Subcontracts were to (1) test the market for NREL's photovoltaic technology, such as burners and power supplies and (2) support an NREL scientist to develop a thermophotovoltaics Internet website, plan a conference on thermophotovoltaics, and prepare two articles about thermophotovoltaics for publication.	128,510
5. *NREL International Strategy*. Expected outcome was to expand the international use of renewable energy in support of sustainable economic development.	264,760
6. *South Africa Energy Policy Research*. Expected outcomes were to provide policy analysis and technical assistance in regulation, governance, and market analysis to South Africa as it restructures its electricity sector and implements a large electrification effort.	211,960
7. *Electronic Information Development*. An electronic publication for NREL employees.	176,900
8. *Renewable Energy Systems Applications*. Expected outcomes were the identification of the various systems and applications engineering activities presently being conducted at NREL, and a thorough examination of the issues regarding "in division" versus functionally based engineering capability and interlaboratory sensitivities. Also, an outcome of the preparation of an implementation plan for the development of a Systems Engineering and Applications Capability.	176,420
9. *Feasibility of Recycling Nylon 6*. Expected outcome was that the industrial partners would make a decision on the commercialization of the technology.	88,560

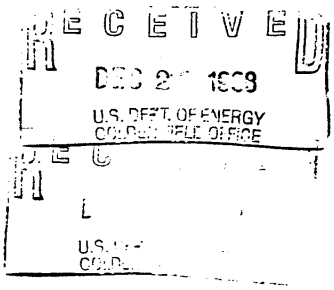
Project Title and Objective	Cost Through 9-30-98
10. *Workshop on Thermophotovoltaic Converters, Systems and Applications*. Expected outcome was to organize the 2nd NREL conference on TPV Electricity Generation, publish the proceedings, and widen awareness of this technology. The goal of the conference is to lead the thermophotovoltaic research and development community in forming a national program that will ensure that core technologies are developed.	$ 84,830
11. *Advance Computing Pilot Project*. Expected outcomes were (1) the pilot installation of a distributed file system connecting all UNIX workstations within the Laboratory; (2) support of portion of a Cooperative Research and Development Agreement by modifying an existing Computational Fluid Dynamics program to operate in parallel on multiple computers; and (3) evaluate and install electronic scheduling software on the LAN and production of a prototype electronic form.	126,490
12. *Builder Guide Software Interface*. Expected outcomes were (1) up to 280 utilities with the capability and option to include passive solar design in demand-side management programs; (2) to develop a working relationship with a subset of the Good Cents utilities to develop follow-on collaborative programs to design, build, and monitor passive solar buildings (homes and small commercial buildings); and (3) to use the Good Cents network to make utilities aware of other renewable technologies that NREL is working on to be used for demand-side strategies and establishing collaborative relationships to pursue these technologies.	32,520
13. *Total Energy Management*: Expected outcomes were (1) expansion of the renewable energy and energy efficient technology market and diversification of funding; (2) generation of more opportunities for NREL's technical expertise in photovoltaic and Wind; and (3) developing a sound business plan to aggressively market to photovoltaic and Wind to new customers.	29,400
14. *Conference on Frontiers of Pyrolysis*: Expected outcomes were to (1) plan, arrange, host, and report on a specialists conference on the chemistry and engineering of pyrolysis; (2) transfer information; (3) foster paradigm-shifting discussions to strengthen the scientific basis and the industrial potential for the field of pyrolysis; and (4) identify major new applications for plastics recycling and joint processes for both plastics and biomass.	26,340
15. *Opportunities Electronic Publication*. Develop an electronic publication for use by NREL employees. Facilitate sharing of ideas and experience, stimulate business development, get projects moving faster, and encourage the development of cross-Laboratory teams with diverse skills.	21,520
16. *Buildings Initiatives*. The Buildings Initiatives consists of (1) the buildings climate change initiative; (2) the second generation smart window for buildings initiative; (3) the policy assessment of energy star labeling of windows initiative; (4) the investigation of national potential of micro-gas turbine cogeneration systems for buildings applications initiative; (5) the high-efficiency, solid state lighting initiative; and (6) the indoor air quality initiative.	21,140

Project Title and Objective	Cost Through 9-30-98
17. *Technology-Policy Expert System*. Expected outcomes were the development of an on-line framework for and the content of a technology-policy expert system including (1) an expert system shell; (2) a database of technology-policy studies; (3) a synthesis of technology-policy studies and the lessons learned; (4) a technology-policy toolchest to enable a range of analyses, including technical, financial, economic, tax, market, carbon trading, options valuation, and others; and (5) automated database entry forms to draw in broader external interests and input.	$ 18,420
18. *U.S. Patent for IR#94-34*. Expected outcome was to successfully provide technical assistance to NREL's legal office to secure an U.S. Patent for IR#94-34, *Method for Charging a Hydrogen Getter*.	14,610
19. *Internet Renewables Assessment Guide*. Expected outcome was a living database accessible via the Internet with a characterization of renewable energy technologies, resource availability, evaluation methods, and environmental advantages. Also, to make NREL the preeminent source of up-to-date information on renewable energy costs and performance.	5,970
20. *Development of a Computer-Based Electronic Bulletin Board System*. Expected outcomes were a computer hardware and software system, custom bulletin boards, a trained administrator, and a means for evaluating the benefits of the system.	2,130
21. *Develop Strategic International Internet Capability*. To develop a high-value Internet compatible information, database, and analytical tool capability for international activities.	450
Total Cost	$2,472,090

Appendix 3

ASSISTANT SECRETARY FOR ENERGY EFFICIENCY AND RENEWABLE ENERGY POLICY

Department of Energy
Washington, DC 20585



MEMORANDUM FOR Frank M. Stewart, Manager
Golden Field Office

FROM: Dan Reicher DR 12/15/98
Assistant Secretary
Energy Efficiency and Renewable Energy

SUBJECT: Policy for Director's Discretionary Research and Development at the National Renewable Energy Laboratory

It is the Department of Energy 's (DOE) policy to fund discretionary research at the national laboratories to maintain the scientific and technical vitality of the laboratories, enhance the laboratories ability to address future DOE missions, and to serve as a proving ground for new and potentially high-value mission enhancing activities. Consistent with this policy the Office of Energy Efficiency and Renewable Energy (EE) has been and continues to be committed to a strong program of discretionary research at the National Renewable Energy Laboratory (NREL). Discretionary research at NREL provides EE an important avenue of innovation and creativity that contributes to EE overall mission success.

To this end I have approved EE policy governing discretionary research program activities at NREL. I expect this policy to be implemented at NREL immediately. I also expect the Golden Field Office (GO) will provide the necessary oversight to ensure NREL's discretionary research program is consistent with this policy in both content and implementation. The annual review of NREL's program should be closely coordinated with EE's Director of Scientific Initiatives, and the results reported to me by October 31st of each year.

As you know the Inspector General's assessment of NREL's discretionary research program and the Golden Field Office's oversight of this program has identified areas for improvement including the types of projects funded under the program, NREL internal controls, GO's oversight of NREL's program, and annual review and reporting. With the issuance of this policy I expect that NREL's management of and Golden's oversight of this program will be enhanced such that these issues are quickly resolved.

Please report to me within 60 days the specific activities that have been undertaken to ensure compliance with this policy.

cc: Robert L. San Martin
Marvin Gunn, Jr.

Printed with soy ink on recycled paper

The Office of Energy Efficiency and Renewable Energy

Policy for Laboratory Director's Discretionary Research and Development Program

It is the policy of the Office of Energy Efficiency and Renewable Energy (EE) to support a Director's Discretionary Research and Development Program at the National Renewable Energy Laboratory (NREL). This policy is consistent with the Department's position on Laboratory Directed Research and Development at multi-program-funded laboratories and is consistent with the mission of the Department. Authority for this policy is contained in Public Law 95-39 Section 303.

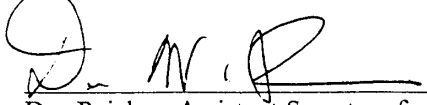
NREL will establish a Director's Discretionary Research and Development Program to be funded by EE and by other entities directly funding work at the laboratory. This program may utilize up to two percent of the annual estimated funding from Appropriations, excluding funding specifically identified for capital equipment or for construction. The specific level of funding will be negotiated annually between NREL and the Golden Field Office (GO), in consultation with the Office of the Assistant Secretary.

This program is to enable the Director to approve for funding projects put forth by laboratory staff, which propose to explore and/or develop innovative or creative opportunities within mission areas assigned to the laboratory. Projects should advance research and development directed toward solving present scientific or technical problems; or should be experiments and analysis directed toward determining the merit and utility of new ideas or concepts. Projects should generally be small (up to $500,000) and of a limited duration (up to 3 years). It is not anticipated that, excepting normal materials, supplies, services and testing, subcontracting will be needed to accomplish these projects. It is anticipated that this program will enable NREL to maintain the ability to support new ideas, approaches and concepts in executing the assigned missions.

In accordance with the Department's financial policy, project costs will be accumulated by individual project, will include all allocable costs except general and administrative expenses, will be accumulated in a separate expense pool as part of laboratories' indirect costs, and will be allocated equitably to all operating costs of the laboratory.

The Director will provide an annual report to the Department on this program which will include, a listing of funded projects, a listing of completed projects, a clear description of each funded project and its objectives, highlights of the overall program and a summary of major project or program accomplishments. This report will be due October 31st of each year.

The Assistant Secretary for Energy Efficiency and Renewable Energy with the participation of GO and other EE representatives will conduct an annual review of the program to coincide with the submission of the annual report. This policy is effective December 1, 1998.



Dan Reicher, Assistant Secretary for
Energy Efficiency and Renewable Energy

December 15, 1998
(Date)

Report No.: WR-B-99-05

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2. What additional information related to findings and recommendations could have been included in this report to assist management in implementing corrective actions?

3. What format, stylistic, or organizational changes might have made this report's overall message more clear to the reader?

4. What additional actions could the Office of Inspector General have taken on the issues discussed in this report which would have been helpful?

Please include your name and telephone number so that we may contact you should we have any questions about your comments.

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